1. INTRODUCTION

Man’s existence on earth has been made possible only because of the vital role played by the plant kingdom in sustaining his life. Herbal pharmacy is the mother of all pharmaceutical branches as herbs have been used as a source of drug to overcome various ailments since time immemorial. The three important necessities of life-food, clothing and shelter and a host of other useful products are supplied to a great extent by the plant kingdom. The nature has provided a complete store house of remedies to cure all ailments of mankind (Kokate, 2003). Since the dawn of civilization man was totally dependant on green plants for dealing with various body disorders.

The plant kingdom provides many plants with properties that are conducive to health and secure the best results from the use of plants as remedial agencies.

Time honoured ancient documents reveal that plants were used medicinally in India, China, Egypt and Greece long before the beginning of the Christian era. Indian medicine, the Ayurvedic system developed with the passage of time and is still one of the most reliable and beneficial systems of medicine practiced in our country. Texts on medicine and therapy compiled by various accomplished and recognized physicians of ancient India like Charaka are evidences of the popularity of herbal medicine in India. Other well known systems of medicine that still exist and are practiced are Sidda and Unani, Homeopathy, Accupunture, and Nature therapy are also gaining wide acceptance.
India called the “Botanical garden of the world” is the third richest country in terms of plant wealth. There is hardly any medicinal plant of therapeutic value which is not available in India. There are 20 well recognized herbal industries, 140 small scale manufactures and 1000 in house manufacturing units. Nearly 1650 herbal formulations are available, prepared from a host of immensely valuable medicinal plants.

It was once believed by the lay public that most of the modern drugs would be of synthetic origin and that drugs of natural provenance were no longer important. But this has been proved wrong. A research carried out recently revealed that as many as 41% of drug preparations contained one or more products of natural origin as therapeutic agents. Of these prescriptions, 25% are based on drugs from higher plants some 15% represent metabolites of microbes and 7% of animal origin (Mohammed Ali, 1997). It is generally believed that around 25% of the active ingredients used in modern medicine are either derived from or related to plants.

Many of the early based drugs such as curare (a muscle relaxant), Quinine from cinchona (antimalarial), Reserpine from Rauwolfia (antihypertensive), Digitoxin from Digitalis (cardiotonic for heart ailments) and the whole range of steroids derived from diosgenin which in turn is obtained from Dioscorea tubers are still in use in therapy. Vincristine and Vinblastine from Catharanthus roseus, Etoposide from Podophyllum species and Taxols from Taxus brevifolia and Taxus baccata find extensive application in cancer therapy. Plant extracts like gingkolides from gingko (for cerebral ischaemia) and valerian extracts from Valeriana officianalis used as sedatives have been approved for market (Anonymous, 1997). One of the most interesting herbal discoveries of recent times is the leaf extract of
Gingko biloba which has been found to improve cerebral insufficiency in the aged, increasing short term memory and slowing down aging process of the brain and circulatory system.

The Indian plant "Coleus forskolin" is a source of forskolin, having unique activation properties as adenylate cyclase and is being developed as a treatment for glaucoma. The 3000 years old wonder tree "Neem" has a minimum of 400 formulations used and the extraction of pure "Azadirachta himonoid" have revolutionised the health industry with 400 different formulations which would include health product, fertilizers, insecticides, pesticides and fertility drug, toiletries and there would be many more. The most recent finding includes Soyabean as a potentially important link between diet and cancer risk and use of crushed seed powder from the Tropical tree "Monignga oleifera" to clean the contaminated water.

One of the new areas in medicine during recent years have been the use of adaptogenic drugs from plants. These drugs are widely used as general tonics, health foods and stimulants to improve the defensive mechanism of the body and to protect the body against stress and infections. Examples of such drugs are Ginsengs (Panax ginseng), (Panax quinquefolium) Asparagus racemosus, Bacopa monnieri etc (Mohammed Ali, 1997), Even common plants like the green tea that has been around us for thousands of years are reported to contain ingredients that can be effectively used in the treatment of deadly diseases. Researchers have found an ingredient called epigallocatechin-3-gallate a major constituent of polyphenols found in Green tea, that has been proved to kill cancer cells. This ingredient is present in amounts of about 200 mg in one cup of green tea (Anonymous, 1997). Japanese researchers have discovered a compound that lowers blood sugar or
diabetes from a plant *Salacia reticulata* which is known to us for around 3000 years. This antidiabetic drug salacinol is a sugar derivative containing sulphur. Chinese scientists have proved that an alkaloid obtained from *Huperiza serrata* is found to be useful in treating Alzheimiers disease, a type of D4 dementia which is commonly seen in developed nations. Even ordinary kitchen herbs and spices like black and white pepper, garlic, ginger, onions and hot peppers, used to flavour food, have been found to be effective antibiotics and antibacterials.

The Indian indigenous drugs have great importance both from the professional and economic view. The country with enormous variabilities of climate and with such wonderful ranges of mountains was, from the earliest times, recognized as a rich nursery of the vegetable material medica. Many Indian plants are mentioned in the works of great physicians of the past belonging to various countries, particularly the aromatic group of drugs for which India has always been famed.

Even today, millions of people in India, who are beyond the reach of allopathic aid and even those who had means of access to consult the best doctors, still prefer to be treated in accordance with the indigenous systems of medicine. The reason to this being that in spite of many well-documented facts regarding its usefulness, certain handicap of modern medicine of magic remedies (synthetic drugs) have led the medicine scientist to look back to the ancient and traditional medicines.

Now efforts are being made to develop herbal medicines in institutes of research and technology all over the world. The fear of involvement of vital organs and occurrence of side effects are negligible in the case of herbal
drugs. The development of science and phytochemistry, and the hopes for remedies in chronic diseases generated new enthusiasm in the research worker to develop herbal medicines. The modern science have accepted the potential of plant kingdom as a source of new biodynamic constituents.

The work of the phytochemists on medical plants would be better rewarding by frequent pharmacological and clinical trials of the extractives. Isolation of pure chemical constituents, their characterization and structure elucidation, and the testing part for real biological activity are undertaken at every step of chemical fraction purification. The active plant constituents thus characterised may or may not always possess the most acceptable pharmacological and toxicological profile but certainly could serve as leads for manipulative synthesis resulting in useful therapeutic agents.

In view of the exceptional importance of the chemical and biological study of the crude drugs it is supposed to take up the study of popular folklore and Ayurvedic vegetable drugs to isolate the active principles and establish the alleged biological activity.

Today, the main objectives of the study of tropical medicines are (i) to find out the effective and safe drugs for the claims of Ayurvedic and other indigenous sciences, and to fix some pharmacognostic standards to prevent the adultration of the drug, in the case of effective and promising drugs, (ii) to suggest economical methods of drug development so that the remedies might fall within the reach of the masses of the country, (iii) to detect and help prevent the cattle from ingestion of poisonous plants and (iv) to make the nation self-dependent by the use of indigenous sources in the medical relief
programme of the country. Present study is focused on plant extracts having antiurolithiatic activity.

Urolithiasis is a urinary tract disorder associated with infections and prostatic disease with the formation of renal stones. Renal stones occur in the renal pelvis, the ureter or the bladder. The presence of stones can lead to renal tract obstruction with loss of renal tissue and function, haematuria and infection. The passage of a stone causes renal colic, which is associated with severe pain. Urinary calculi are polycrystalline aggregates composed of varying amounts of crystalloid and a small amount of organic matrix. There are five major types of urinary stones: calcium oxalate, calcium phosphate, struvite, uric acid, and cystine. The most common types are composed of calcium. Calcification can also occur scattered throughout the renal parenchyma (nephrocalcinosis). The majority of stones requiring surgery, are located in the ureter or kidney. Techniques such as ESWL; PCNL do not cause the prevention of recurrence of the stone.

They cause side-effect such as haemorrhage, hypertension, tubular necrosis and subsequent fibrosis of the kidney (Aeckart et al., 1989). Hence the search for herbal preparation is still ongoing. A large number of Indian medicinal plants have been used in the treatment of urolithiasis and they are reported to be effective with no side effects (Nadkarni et al., 1976).

The plants Macrotyloma uniflorum (Lam.) Verdc. and Plectranthus amboinicus (Lour.) Spreng., have been selected for this project work as they have been claimed to have the property of antiurolithiatic activity (Varier et al., 1996, 1997).